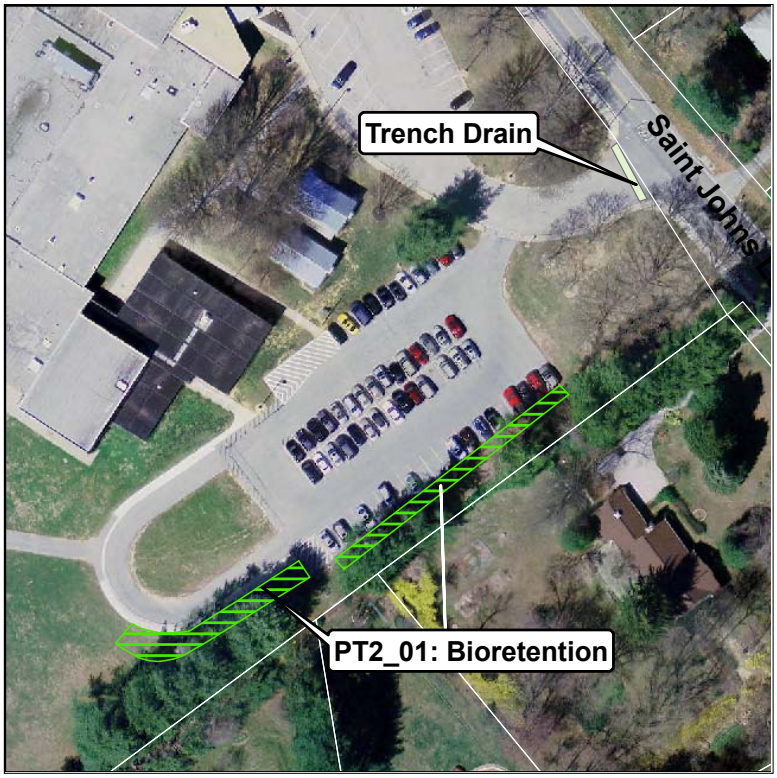
Proposed Project

Project Number: PT2_01
Subwatershed: Plumtree Branch 2

Project Type: Bioretention
Project Size: 365 SY
Drainage Area: 2.16 acres/1.52 acres impervious

Project Location: Saint Johns Lane Elementary School off of Saint Johns Lane.



Project Description: This project is a bioretention site designed to improve the quality of the runoff from the school. The project would include using bioretention facilities to treat some of the parking lot runoff. The soil on the site is labeled as Hydrologic Soil Group (HSG) B/D. This means that, if the soil onsite is closer to HSG B, it would be able to infiltrate the runoff that would pond in the bioretention area. However, if the onsite soil is closer to HSG D, an underdrain would be needed to remove the filtered water from the bioretention area. A soil percolation test would need to be performed to know which design would be utilized.

Student and volunteer involvement may be used to reduce costs associated with planting and maintenance. The area currently does not have any stormwater management. A trench drain placed across the entrance to the parking lots would capture runoff and route it to the nearby stormdrain inlet. This would help reduce the ponding at the sidewalk crossing area. These practices may be implemented as part of redevelopment activities

Project Benefits:

Water Quality	Water quality will be improved from filtration and nutrient uptake.
Education	Proximity of the project to the elementary school could provide educational benefits.

Project Constraints:

Environmental	No environmental constraints or permitting issues are anticipated.
Property Ownership	This property is a publicly-owned institution.
Facility Access	Access to the site is excellent from parking areas.
Design / Construction	The full water quality volume cannot be accommodated in the available area.

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Cost Detail:

ITEM	QTY	UNITS	UNIT COST	TOTAL
Green Technology				
Dry Swale w/ underdrain		SY	$70.00	$0
Dry Swale w/o underdrain		SY	$25.00	$0
Subsurface Infiltration (Trench)		SY	$85.00	$0
Filter Strip		AC	$4,000.00	$0
Bioswale w/ underdrain		SY	$85.00	$0
Bioswale w/o underdrain		SY	$35.00	$0
Bioretention	365	SY	$230.00	$83,950
			Direct Construction Subtotal	$83,950
Indirect Costs				
E/SC, MOT, MOS (10% of Directs, minimium $2,000 maximum $15,000)	1	LS	$8,395.00	$8,395
Construction Stakeout ($1,000/Day)	2	Days	$2,000.00	$2,000
			Base Construction Cost	$94,345
			Mobilization (10% of Directs or $1,000)	$8,395
			Subtotal	$102,740
			Contingency (30%)	$30,822
			Construction Subtotal	$133,562
			Envt'l Studies / Permitting (5% of Construction or $5,000, where necessary)	$0
			Engineering and Surveys (25% of Construction or $30,000, maximum $40,000)	$33,391
			Total Capital Cost	**$166,953**
Operations and Maintenance Costs				
Annual Maintenance	6	Percent	$5,037	
Discount Rate	5	Percent		
Expected Life	20	Years		
			Net Present Value of O&M Costs	$62,772
			Life Cycle Cost	**$229,800**